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*from the Authors*  
2 THE

CHARLESTON

MEDICAL REGISTER,

FOR THE YEAR

M.DCCCII.

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BY DAVID RAMSAY, M. D.

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## INTRODUCTION.



*MEDICAL* facts, correctly stated and diligently compared together, reflect great light on the practice of physic. Conformable to this established principle, it must be obvious, that annual statements of the principal events, connected with the health of the inhabitants, made by physicians in different places, would be particularly useful. The more extensively this was done, the better ; but in the United States, the advantages of such publications are enforced by peculiar considerations. In the old world the attention of learned men has been employed for many centuries, in applying the general principle of medical science to the local peculiarities of each particular spot. Knowledge of this kind, in America, chiefly rests with individuals. To bring it within the reach of the community, requires the joint labors of practitioners in every part. If one physician, in each of the cities and towns of the United States, and several in the country parts of each state, were to favor the public with an annual account of the state of diseases, and of the circumstances connected with them, as far as their observations extended, there would, in time, be an accumulation of materials, from which we might obtain the following advantages :

1. More correct knowledge of the diseases of the United States.

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2. *A Comparative view of the health and longevity of the inhabitants in different places.*

3. *Authentic evidences of all changes of the climate that took place; and particularly of the effects produced on the health of the inhabitants from clearing and cultivating the soil, and from the different modes and articles of culture.*

4. *Persons laboring under any constitutional predisposition to particular diseases, might select, with precision, a place of residence, least likely to call into action the particular predisposition, under which they labored. Such is the extent and variety of climates in the United States, that this might be done, in almost every case, without changing the government or language, to which persons proposing a change of residence, were accustomed.*

5. *Physicians would be enabled to direct invalids to such a route in travelling, as would best suit their particular habits and diseases: from the want of this local knowledge, improper advice is frequently given. The longitude and latitude of places afford no certain rule. Their influence, controlled by a variety of local circumstances, is by no means uniform.*

*The advantages of the proposed annual publications would not be confined to the medical department. The farmer and gardener, from an average of seasons, would be assisted in forming their opinion of the best time for their respective operations.*

*The enterprising agriculturist, who wished to enrich his country with some new productions, would be informed when and where to make his experiments, by comparing the observations auxiliary to the practice of physic, with the usual habits of the particular commodity he wished to introduce.*



## INTRODUCTION. ▼

*A facility might thus be given to the introduction of ginger, japan sago, of the almond, allspice, caper, clove, cinnamon, camphor, nutmeg, red cotton trees, and several others valuable exotics. There are, doubtless, portions of the United States suitable to the culture of these articles; but that suitability is unknown to foreigners, and equally so to the owners of the soil. The same observation applies to the introduction of new animals, and of new branches of manufacture. Success, in both cases, must be materially influenced by the degree of heat and cold, and of the moisture and dryness of the atmosphere.*

*The foreigner, who wished to remove to this land of equal rights, would, also, be enabled to determine where to locate himself, in a situation least variant from his trans-atlantic residence.*

*With these impressions, the following contribution is respectfully submitted to the public. However imperfect the execution may be, the plan is such, that if improved by the wisdom, and carried into effect by the industry of more enlightened physicians, some considerable benefit must result to the United States.*

DAVID RAMSAY.

Charleston, South-Carolina, January, 1803.



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CHARLESTON, in the year 1802, was afflicted with four epidemics. The small-pox, the measles, the influenza, and the yellow-fever. There were cases of the Small-Pox in almost every month of the year. It proved fatal to four children, though inoculated for it by skilful physicians; and also, to about twenty other persons, who took it in the natural way. These died under circumstances horrid to see, and painful to relate. Covered with confluent sores, they could neither stand, sit, nor lie, without exquisite pain. Their bodies, and bed-cloaths, were stiffened with foetid discharges from every part of their skin. The whole emitted a stench intolerable to bystanders. Humanity was put to the rack, while  
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it discharged the offices necessary for their support. In one case, an unfortunate negro (who caught the disease, remote from help, and unknown to his owner) was so far bereft of all power to help himself, that rats devoured a large portion of his *Tendo Achillis*, some days before he died. The recoveries from the small-pox were much more numerous than the deaths. Though in many cases, the subjects of the former suffered comparatively little, there were others who escaped with difficulty, and after a painful and distressing confinement.

A considerable number, (supposed to be not less than twenty) took the small-pox in the natural way, after having been inoculated for it, and after medical practitioners declared that they had had the disease. One of these unhappy patients died, and others suffered more from it, in consequence of no pains having been taken to obviate a malady, from the attacks of which they supposed themselves to be free, till its advanced stages evinced the mistake.

The measles began early in the year, and in the course of four or five months, gradually spread over the city. A few cases also occurred in November and December. They were generally mild, excepting where they attacked persons labouring under complaints of the breast. There were very few instances of immediate death from this disease; but it proved fatal in its consequences to several who were of a consumptive habit. In persons of this description, and others who were not confined to a low diet, nor guarded against night air, and damp cold weather, the original malady was followed.



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lowed by consequences more seriously alarming than itself. In the most dangerous period of the disease, bleeding and blistering were found to be of eminent service. A careful avoidance of warm stimulant drinks—of heat and cold—a strict conformity to a low cool regimen; together with a slow gradual return to a full diet, produced the happiest effects. Convalescents, who continued weakly, received great benefit from changing the air; particularly from sailing.

The influenza was cotemporary with the measles; but more general. In some instances, whole families were seized with it, nearly at the same time. Excepting the eruptions in the latter, the symptoms of both were very much alike, and required a similar treatment. The influenza, chiefly attacked those who had previously gone through the measles. It seemed, as though one constitution of the air favored the production of both. The influenza, though painful and distressing, was very seldom mortal.

The general complexion of the diseases, for the first seven months of the year, was inflammatory. Pleurifies, acute rheumatisms, and complaints of the breast, were uncommonly frequent. From these precursors, some predicted a sickly summer, and a great prevalence of yellow-fever; but they were agreeably disappointed. July, and the first seventeen days of August, were cool and healthy, there was only one day in both months, in which the mercury, in Fahrenheit's thermometer, reached eighty-nine. The old inhabitants were generally free from diseases of every kind; and only two strangers died of the yellow-fever before September.

tember. Fourteen of the last days of August, and the twenty-two first of September, were steadily warm; but not to so great a degree as in some former years. In only three of them (the twenty-sixth of August, and the fourteenth and fifteenth of September, did the mercury rise as high as eighty-nine.) On the other hand, in only two of them (the fifth and sixth of September) did it fall below eighty. In this warm season, the yellow-fever began to extend; but was less mortal than usual. More than half, who were attacked by it, recovered. The mode of treatment, which seldomest failed, was depletion, followed by a mercurial salivation. There were a few, and only a few cases, where calomel produced its usual effects, in which the patient did not recover. Where the disease proved fatal, its superior excitement rendered this, and every other medicine, comparatively inert.

A few strangers, though from northern latitudes, passed the summer (their first) in Charleston, without being attacked with the yellow-fever. In three cases it proved fatal to persons, who had resided in this city for eighteen months immediately preceding. No instance occurred of the death of any under twelve years of age, from this disease.

The eagerness of the people to receive their winter goods, early in the season, induced men in trade to order matters so, that several vessels from foreign parts, arrived in Charleston, with their unseasoned crews, in the months of August, and September.

To such, the yellow-fever was particularly inhospitable.

hospitable. To others, arriving in the same season, Sullivan's-Island afforded a safe retreat, till the danger was over. Exceptions to this, have heretofore been very rare, and generally could be accounted for from some irregularity; but in the year 1802, five cases of the yellow-fever, (and two of them fatal,) occurred in one house on that island, while the other inhabitants were generally healthy.

No instance can be recollected, in which there was any ground to suppose, that the yellow-fever was either imported, or had been contagious. No physician, nurse, nor other person exposed to contagion, from their intercourse with persons labouring under yellow-fever, caught the disease. It was exclusively confined to strangers; and among them there was no evidence of its being communicated from one to another.

Having enumerated the diseases, that afflicted the inhabitants in 1802, I proceed with pleasure to point out some events, in the same year, which have a favorable aspect on their future health.

Vaccination was introduced into Charleston, in February, and in a short time became general. It had been long known in England, that persons who from milking cows, were infected with a disease peculiar to them, called the cow-pox, were afterwards secure from the attacks of the small-pox. The ingenious Dr. Jenner, possessed of this fact, instituted experiments to ascertain the practicability of propagating the cow-pox from one human subject to another, and with the same security from the small pox, that was acquired by persons originally infected from the cow. The result

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was favorable to his wishes, and eminently so to the interests of humanity.

In 1798, he published an account of his enquiries and experiments. In four years vaccination, as established by him, was introduced into Charleston, and rapidly extended from the Atlantic to the mountains.

The practice was particularly recommended by the following facts : Among many hundreds, who were the subjects of this new disease, none died, or were seriously sick ; and no case occurred where the small-pox followed the cow-pox, though many who had gone through the latter, were frequently exposed to the contagion of the former. As far as a comparison can be made, the vaccine disease existed in this climate, in a milder form, than in more northern latitudes.

The subjects of it were seldom laid up, or ceased a single day to perform their usual business. Pustular eruptions, to any considerable degree, were very uncommon, and never dangerous. The vaccinated spots scarcely ever degenerated into sores, except were they had suffered violence from scratching, or otherwise. No case can be recollected, in which common water, or at most lead water, failed of speedily healing the arm.

Forty years elapsed, after inoculation for the small-pox was introduced into England, before it became general in this city. So little was then known of the disease, that Charleston, though much less populous than at present, lost five-hundred of its inhabitants by the small-pox, in the first year after the general introduction of inoculation.

The contrast between the old and new inoculation



tion must afford pleasure to every benevolent mind.

Nothing is now wanting to exterminate the small-pox, but a general and simultaneous vaccination. This might, by previous concert, be carried into effect in a very short time; not only in this state, but in all countries with which we are connected. Till something of this kind takes place, all new born children, and many others, are exposed to danger from every vessel that arrives; for it may convey to our shores a person infected with the small-pox. From a single case of this kind, that disease may be introduced, and when introduced, no one can compute the extent of its ravages: for it propagates itself by the agency of invisible effluvia, and ceases not, as long as it finds susceptible subjects within its reach.

Our situation is peculiarly exposed. No laws forbid the introduction of the small-pox, nor the spreading of it by inoculation. In either case it may find us unprovided with the ægis of Jenner.

The natural cow-pox has not yet been discovered among our cattle, and the artificial is likely to die away among us from the want of a regular succession of subjects. Once already, since its introduction, it has been lost; and there is reason to fear it soon will be lost a second time.

The year 1802 gave birth to the Charleston Dispensary. The City-Council generously voted 1000 dollars to defray the annual expences thereof; and twelve physicians offered their services, gratuitously, in attending and prescribing for the patients of the institution. It is but justice to add, that the trustees have faithfully done their duty; and the sick ac-

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knowledge that they have been as carefully attended by the physicians, as could have been expected, in case of their ability to make them compensation.

Ninety-nine patients have partaken of the benefit of this institution in the first eight months after it was opened.

From its progress, an abatement of mortality, and a diminution of diseases, among the less opulent citizens, may be reasonably expected.

The same year gave life and activity to the company incorporated for the purpose of supplying Charleston with wholesome water. The necessity of this had been pointed out to the inhabitants, as long ago as November, 1797, and before either Boston, New-York, or Philadelphia, had adopted any measures for the same purpose. The Charleston water company was incorporated in the year 1799; but it was as late as the year 1802 before they adopted efficient measures for carrying into effect the object of their incorporation. The inhabitants had been previously supplied with water from wells and cisterns. Against both, serious objections existed. In conformity to ancient custom, the bodies of the dead, for more than a century, had been interred within the limits of the city.

From the moist texture of our soil, the bottoms of graves, and of the vaults of necessary houses and the tops of wells, are for the most part nearly of the same depth; that is from six to eight feet from the surface of the earth.

In several spots of the city all three are located in the vicinity of each other. Add to this the impurities collected on the surface of the earth, through which much of the well water must have penetrated.

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penetrated. Country people, complained that the city water disturbed their bowels. The citizens found that their linen, when washed in Charleston, was less white than when they resided on their plantations. Apologies, founded on the qualities of the water, were brought forward to justify the too common practice of attempting to correct them, by the addition of large quantities of ardent spirits. X

Objections of a different nature, were made to the use of rain water, collected in cisterns. Though our climate is moist, yet droughts from three to twelve weeks long are not uncommon. As often as such dry seasons return, they, who depend on cisterns to be supplied with rain water, must expect to drink it old and in a vapid stagnant state.

This is evident from an examination of the pluviometrical observations made last year in this city. From them it appears, that though the whole quantity of rain, that fell in the course of the year, was thirty-nine inches  $\frac{1}{10}$ th; yet of this nearly one third fell in the month of July, and that there fell five inches in one day (twenty-third of September,) which is more than twice as much as fell in January, February, March, October, and the first twenty-nine days of November. More than a sixth of the whole fell in one glut, about the middle of July; to which, if you add the rain on the twenty-third of September, and the thirtieth of November, it will appear, that more than one third of the whole annual amount, fell in three storms. So uncertain and irregular must be the supply of cisterns, which is derived from rain.

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From experiments made in 1740, by Dr. Lining, in Charleston, it appears that the perspiration from his body, in a summer's day, equalled one hundred and thirty ounces. This amount, multiplied by the number of human beings, and other animals, in Charleston, will yield upwards of one hundred thousand weight of perspirable water, thrown daily into its atmosphere. Every drop of rain water, before it reaches our cisterns, must pass through an atmosphere exposed to this daily mass of contaminated materials. It surely cannot bear any comparison with water filtered through a sandy soil, remote from all the offensive matter, with which Charleston abounds, and conveyed cool and clean to our doors.

The water company being now completely organized, and under the direction of an active intelligent president, and board of directors. Six hundred shares taken up, and the preparatory arrangements considerably advanced, a reasonable hope may be indulged, that the final completion of the work is at no great distance.

In addition to the supply of wholesome water for domestic use, a surplusage for keeping the streets cool and clean, and for baths, will probably be procured. In every point of view, the prospects of improving the health of the inhabitants are very promising.

Nothing great, or decisive, was done last year by the police of the city, for obviating the occasional causes of its local diseases. Nuisances were slowly removed, and the streets were very imperfectly cleaned. But few trees were planted in the city, and most of these were Lombardy poplars, which  
drop



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drop their leaves so early in the season, as to be of little use in purifying the air when their aid is most wanted. Very little was done by authority for filling up the low grounds. The greatest exploit in this way was the work of an individual. Improvements have been commenced, and considerably advanced by Mr. Wm. M'Leod, on the north west angle of new East-Bay and Water-Streets; which, when completed, will present a salutary dry surface in place of a vile unwholesome quag-mire.

Though there were frequent instances of the destructive effects of thunder in the Northern States, last summer, we suffered nothing materially from that source. Its sound was distinctly (and in a few cases very loudly) heard on forty-eight days, viz. April 7, 8, 10, 30. May 6, 11, 13, 15, 22, 28. June 3, 7, 9, 14, 17, 18, 19, 22, 25, 30. July 7, 11, 18, 19, 20, 21, 22, 28, 29, 30, 31. August 3, 4, 7, 8, 9, 12, 29, 30, 31. September 3, 11, 12, 13, 14, 20, 21, 22. November 30.

One house, near the west end of Broad-Street, though defended with lightning-rods, was struck, but not materially injured.

Less rain fell in 1802, than in any of the seven preceding years. The whole quantity was thirty-nine inches and a tenth; and the number of rainy days were sixty-four; the particulars, will appear from the following table:

1802.

<i>Days of rain.</i>	<i>Inches. Tenths.</i>	
January 21, 27,	0	4
February 13, 15, 22, 25,	0	8
	<hr/>	
	1	2
	March	

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	<i>Inches.</i>	<i>Tenths.</i>
Brought over,	1	2
March 14, 22,	0	8
April 17, 19, 30,	2	0
May 6, 11, 15, 17, 20, 28, 29,	3	0
June 3, 7, 14, 20, 22, 24, 25,	3	4
July 3, 5, 12, 13, 14, 15,		
23, 24, 25, 26, 27, 28, 29, 30,	12	1
August 1, 3, 8, 9, 10, 11, 12,		
13, 29, 31,	4	9 $\frac{1}{2}$
September 3, 11, 23, 26, 29,	5	8 $\frac{1}{2}$
October 3, 24, 31,	0	2
November 30,	2	4
December 4, 8, 12, 13, 18, 30,	3	2
	<hr/>	
Days sixty-four,	39	1

Though there were only sixty-four days in which an actual fall of rain took place, yet the index of the hygrometer, pointed to damp in all degrees, from one to one hundred and one, for three hundred and fifty-two days. As far as we can rely on this instrument, we must admit, that there were only thirteen days of a dry atmosphere in the year 1802; these were April 26, 27. May 8, 12, 18, 19, 24, 25, 26, 31. June 16. November 5, and 7. The highest degree of dryness, pointed out in these days, was fifteen, which took place on the twenty-sixth of April. That the atmosphere should be so generally damp, in a year in which there was comparatively so little rain, excited surprise. On the accuracy, of the recorder (Dr. R. Wilson,) the most implicit confidence was deservedly placed. To ascertain the sensibility of the hygrometer, the following experiment was made on the sixth of

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of January, 1803, by Dr. R. Wilson and myself. Between one and two, P. M. in a showery day, when the index pointed to thirty-seven damp, a lighted candle was held near to it for ten minutes. In the course of this short period, the index changed its position forty-two degrees, that is from damp thirty-seven, to dry five. The candle being withdrawn, in one hour it returned to thirty damp. Easterly winds were very prevalent in 1802, and air holds water, both in solution and combination. Nevertheless, the result is so variant, from common apprehensions and feelings, as to require farther investigation, before the almost constant dampness of last year is admitted.\* The comparative dampness of the different months may be seen in the following table :

January,	31 days	damp from 11 to 76 degrees
February,	28	do. 10—96
March,	31	do. 4—62
April.	28	do. 3—95
May,	23	do. 2—30
June,	29	do. 1—45
July,	31	do. 30—101
August,	31	do. 30—90
Septem.	30	do. 14—100
October,	31	do. 12—90
Novem.	28	do. 4—60
Decem.	31	do. 5—77
Damp days, 352. — Dry do. 13. — Total, 365.		
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\* The meteorological observations referred to in this work, were all made by an instrument, containing a thermometer, barometer and hygrometer, constructed by Dolland, and suspended in a corner of an open passage, leading to the stair case, in the house of Doctor Robert Wilson, near the western extremity of Broad-street.

The weight of the atmosphere, and the direction of the winds, for the year 1802, may be learnt from the following table :

	<i>Barometer.</i>		<i>winds. days.</i>		<i>winds. days.</i>	
January,	30	12 to 30 74	S to NW.	17	N to SE.	14
February,	30	13—30 90	do. do.	15	do. do.	13
March,	30	20—30 80	do. do.	20	do. do.	11
April,	30	30—30 75	do. do.	22	do. do.	8
May,	30	40—30 73	do. do.	26	do. do.	5
June,	30	30—30 72	do. do.	18	do. do.	12
July,	30	15—30 40	do. do.	21	do. do.	10
August,	30	10—30 54	do. do.	16	do. do.	15
Septem.	30	10—30 50	do. do.	18	do. do.	12
October,	30	20—30 90	do. do.	8	do. do.	23
Novem.	30	10—30 60	do. do.	14	do. do.	16
Decem.	30	5—30 70	do. do.	17	do. do.	11

The latest frost in the spring of 1802, was March the fifteenth; the earliest in autumn, was October twenty-sixth, or rather November first; the coldest day was February twenty-third, thermometer thirty-two; the next coldest day, was December ninth, thermometer thirty-three. The greatest and least degree of heats, in each month, was as follows :

January,	Greatest 74,	Least 45,
February,	69,	32,
March,	74,	44,
April,	86,	61,
May,	84,	66,
June,	86,	72,
July,	87,	70,
August,	89,	72,
September,	89,	60,
October,	81,	54,
November,	74,	45,
December,	70,	33,

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The following table, in which the days are classed, will shew the number of warm days in the respective months, and the degree of heat in each day; but without fractions. The first column states the highest range of the thermometer, in the whole course of the days opposite thereto, in the second column :

1802.

Thermometer	JANUARY.	Thermometer	FEBRUARY.	Thermometer	MARCH.
	days.		days.		days.
74	29.	69	11.	74	30.
72	28.	68	8.	72	10. 19. 25. 30.
70	27.	67	3. 16. 17.	71	18.
68	3. 9.	66	21.	70	17. 20
67	16. 21.	65	4. 14. 15.	69	3. 24.
66	4. 8. 15. 30.	64	9. 10. 26.	67	9. 26. 29.
65	2. 7.	63	12. 18.	66	1. 16.
62	14. 17.	62	7. 22.	65	13. 23.
60	15. 19.	61	13.	63	2. 6.
59	18.	60	1. 28. 25.	61	28.
58	11. 23.	59	27.	60	15. 21. 22.
57	20. 6	58	20. 2		12. 5.
56	1. 22. 24.	55	24.	59	4.
55	26. 13.	53	5. 6.	58	11.
54	25. 12. 10.	48	19.	55	8. 27.
51	5. 31.	45	23.	54	14.
				57	7.

APRIL,

<i>T.</i>	<i>APRIL. days.</i>	<i>T.</i>	<i>MAY. days.</i>	<i>T.</i>	<i>JUNE. days.</i>
86	26.	84	6.	86	22. 23
80	4. 14.	83	10.	85	13. 14
79	3.	82	5.	84	24.
78	30.	81	26.	83	3. 30.
77	2. 10. 25.	80	11. 22. 28.	82	11. 12. 17.
76	7. 13. 18.	79	25. 9. 27.		20. 21.
	22. 29.	78	12. 13. 15. 21.	81	10. 6.
75	9	77	24. 29.	80	2. 8. 9. 15.
74	1. 8. 12. 19. 27.	76	23. 30.		16. 25. 28.
73	21. 5.	75	4. 31.	79	7. 18. 19.
71	28. 6.	74	16. 19.	78	29.
70	17. 24.	73	8. 14. 20.	77	5. 26. 27.
69	23.	72	1. 18. 3.	76	1.
68	11.	71	7. 17.	74	4.
67	16.	69	2.		
66	5.				
65	20.				

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## AUGUST.

## SEPTEMBER.

87	9.	89	26.	89	14. 15.
86	8.	88	27.	88	7. 13.
85	10. 18. 21.	87	25.	87	11. 16.
	22. 30.	86	29.	86	2. 10. 17.
84	4. 6. 7. 19. 31.	85	2. 28. 24.	85	4. 12. 18. 19
83	20. 23. 29. 27.	84	30.	84	1.
82	1. 2. 3. 5.	83	1. 20. 31.	83	20. 21.
81	24. 16. 17.	82	7. 8. 12. 13. 17.	81	22.
80	11. 26. 28. 25.		18. 21. 22. 23.	80	3. 8. 9.
78	15. 12.	81	3. 9. 11. 16.	79	5.
76	14.	80	6. 19.	78	6.
72	13.	79	15.	75	23.
		78	4. 5. 14.	71	28.
		77	10.	68	31.
				67	25. 26. 29.
				66	27.
				65	24.

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Thermometer	OCTOBER.	Thermometer	NOVEMBER.	Thermometer	DECEMBER.
	days.		days.		days.
81	16.	74	26.	70	27. 28.
80	13. 14. 17.	73	24.	68	23.
	22. 23.	70	16. 22. 24.	65	5. 29.
79	15. 18.	67	7. 21. 11. 30.	64	21 22. 26.
78	9. 11. 19	66	10. 17.	62	14.
77	6. 12. 21.	65	19. 20. 23. 15.	60	15.
76	5.	64	13. 12. 8.	58	20. 24. 30.
75	10. 7. 8.	62	14.	57	12. 4.
73	4.	61	9. 29.	55	3.
72	3.	59	3. 18.	54	6. 1.
71	2. 20. 31.	57	5. 6.	53	11. 25.
70	26. 27.	56	2. 27.	50	2. 31.
69	1.	55	4.	49	13.
67	24. 30	54	28.	48	16. 19.
66	25.	50	1.	46	7.
64	29.			45	10.
63	28.			44	8.
				42	17.
				40	9.
				39	18.

On the ninth of November, (the day of the transit of mercury over the suns disk) the tide rose considerably higher than the highest, that can be recollected by the oldest inhabitants, since the year 1752, in which the great hurricane took place. No alteration for the better or worse, with regard to diseases, either preceded or followed this extraordinary event ; but much damage was done to

to wharves, stores, and the banks of low grounds. Storms and shipwrecks were also frequent.

On the night of the ninth of October, 1802, William Withers, a horse dealer from Kentucky, descended through a grate into one of the covered arched drains, that pervade the streets of Charleston, and passed along the same, till he was opposite to the South-Carolina Bank. He then began operations to make a subterraneous passage across from the drain to the vaults, in which the cash of the bank was deposited. In prosecuting this business, he passed ninety days and nights under ground, and in a prone posture. For the first twenty-two days after his descent, it was so uncommonly warm, as to be on an average nearly seventy-nine. For the last sixty-eight days the heat varied from seventy-four, to thirty-three. In the first period, yellow-fever, intermitting, and other fevers of warm seasons, were common among the inhabitants. In the last period pleurifies, colds and catarrhal complaints, were, in like manner, frequent: yet, all this time, Withers enjoyed good health, with exceptions of a few slight head-aches and pains in his bones, which generally went off with perspiration in the course of his next repose. His situation, in the drain, was distressing; but it was tolerable after passing through it, he was surrounded with earth. He had no blanket, nor covering of any kind, but his light ordinary apparel, which he never put off. His usual time of sleeping was, when he judged it to be day from the noise he heard over his head. His signal for recommencing work, was the receipt of provisions, dropt by his accomplices,



plices, in the night, through a grate. He was sometime exposed to serious danger from the springing of water; and his bed was earth, which was often damp. His food was mostly bread, butter, and cheese, and, (with the exception of one bottle of wine) water was his only drink. Butter burning in a lamp afforded him light.

Three days frequently passed without discharging the contents of his bowels.

The enjoyment of so much health, for so long a time, under such circumstances, was, in part, probably owing to the following causes:

1. A strong constitution, inured to hardships in every period of his life.

2. That constitution suited to the air of Charleston, by a very recent seasoning. He had but just recovered from a severe fever, when he entered the drain. Though relapses are not uncommon, yet a new and distinct fever scarcely ever attacks strangers in the same summer, in which they receive their first serious impressions from our climate.

3. The effects of moisture, must have been in a great degree parried by his labor, and the moisture itself moderated by the dry sandy nature of the soil, through which he had to work, and by the absence of rain: For the first fifty days after his descent, the whole quantity of rain that fell, did not amount to two tenths of an inch; and in the last forty was only five inches eight tenths; besides simple moisture, without heat, or miasmata, is comparatively harmless.

4. The absence of several of the exciting causes of diseases. The heat of well water, and of the earth, a few feet below the surface, is

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generally

generally the same in all countries, as the medium heat on an average of the different seasons in these countries respectively. This, in Charleston, is sixty-five or at most sixty-six on Fahrenheit's thermometer. Withers must have enjoyed a steady unvarying atmosphere of this temperature, while the inhabitants above ground were panting under a heat of eighty, or distressed with the cold of thirty-three, and subject to all the changes of an atmosphere, vibrating from one extreme to the other. That something in the air of Charleston, which is so distinctive to strangers, in the summer and autumn, is too volatile to descend below the surface. Miners, and colliers, in all countries, are generally healthy.

The experiment is not recommended ; but it is probable, that a subterranean residence might be so constructed, as to afford security against our local diseases.

The great excitement of Withers's mind, from the prospect of accumulating wealth, must have counteracted the effects, that otherwise would naturally have resulted from his situation. The energies of human nature, when in pursuit of a great object, (especially if invigorated with the hope of obtaining it) are beyond all calculation. The weakly wife, and the tender mother, will undergo watchings and fatigues in nursing the objects of their affection, far beyond the power of human nature to bear, when in a state of indifference. The high toned state of Withers's mind, must have had a decided influence in preserving his health : It is much to be regretted that it was not excited by worthy objects.

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MEDICAL REGISTER.

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It was intended to have concluded with a bill of mortality for the year 1802; but this is impossible, as no register of the dead is kept, except for the months of July, August, September, and October. Of the 18,824 inhabitants, which Charleston contains, there died in these four months 333; of these 110 were blacks, or people of color. The white population is 1,184 short of the number of colored persons; yet the deaths among the former are two to one more than among the latter. The yellow-fever falls almost exclusively on the whites. The blacks are liable to it; but have the advantage of old residents, as few come from the country while that disease is known to be in Charleston. After deducting all who died of the yellow-fever, the advantage is still in favor of the blacks. The proportion would then be 127 deaths among the whites, and 110 among colored persons; though there are more than ten of the latter to nine of the former.

The blacks certainly bear the climate better than the whites; and their diseases are less complicated and more easily cured.

The whole number of deaths in the four months already mentioned, from the yellow-fever, was ninety-six. Of these, two took place in August, sixty-four in September, and thirty in October. In the whole number there was not a single native of Charleston, though five of them were born in South, and one in North-Carolina, twenty-one were born in England, twenty in the Northern-States, nineteen in Ireland, eight in Germany, seven in Scotland, five in France, one in Spain, one in Prussia, and one in Madeira. The birth

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place of the remaining seven could not be ascertained. There was not a single black, and only one mulatto, died of this fever. One of the subjects, to whom it proved fatal, had resided three years partly in Charleston, and partly on Sullivan's-Island. One had resided two years; two a year and a half, and eighteen for eleven or twelve months in Charleston. The residence of the remainder varied from eight months to six days.

Mrs. Ann Gray, a native of South-Carolina, died last year, in the eighty-first year of her age. She was born on James-Island, had resided mostly in or near Charleston. Her teeth were good, and at all times fully equal to the business of mastication. In the seventy-eighth year of her age, she executed some ingenious needle work, which required both eye sight and judgment; and was active and useful to the last month of her life. She rose early, worked much, and was temperate. Water, of which she drank great quantities, was her chief drink. Occasionally, at dinner, she added a little rum. Her memory and recollection of long past events, was minute and exact. She remembered, in particular, that her father Mr. Villeponteaux had declined the purchase of Lynche's pasture (a property supposed now to be worth one hundred thousand dollars,) though offered to him for seventy barrels of tar. Mrs. Gray, at the time of her death, had been mother of twelve children; the grandmother of forty; and the great grandmother of twelve.



